

PENNSYLVANIA RAILROAD, TRENTON CUT-OFF,

HAER No. PA-538

BRIDGE No. 25 AT EARNEST

Pennsylvania Historic Railroad Bridges Recording Project

Spanning Schuylkill River, south of Pennsylvania Turnpike (I-276)

Swedesburg

Montgomery County

Pennsylvania

HAER
PA
46-SWEBU,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
1849 C Street, NW
Washington, DC 20240

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Location: Spanning Schuylkill River, south of Pennsylvania Turnpike (I-276), Swedesburg, Montgomery County, Pennsylvania.

USGS Quadrangle: Norristown, Pennsylvania (7.5-minute series).

UTM Coordinates: 18/472280/4439005

Dates of Construction: 1890-91 (substructure); 1914-15 (superstructure).

Basis for Dating: ICC Bureau of Valuation records.

Designer: H. R. Leonard (Engineer of Bridges & Buildings, Pennsylvania Railroad).

Fabricator / Builder: Phoenix Bridge Co. (Phoenixville, Pennsylvania).

Present Owner: Norfolk Southern Railroad.

Present Use: Railroad bridge.

Structure Type: Riveted Warren deck truss.

Significance: The Schuylkill River Bridge is significant for its association with the Pennsylvania Railroad's Trenton Cut-Off, an early low-grade freight line around Philadelphia.

Historian: Justin M. Spivey, April 2001.

Project Information: The Historic American Engineering Record (HAER) conducted the Pennsylvania Historic Railroad Bridges Recording Project during 1999 and 2000, under the direction of Eric N. DeLony, Chief. The project was supported by the Consolidated Rail Corporation (Conrail) and a grant from the Pennsylvania Historical and Museum Commission (PHMC). Justin M. Spivey, HAER engineer, researched and wrote the final reports. Preston M. Thayer, historian, Fredericksburg, Virginia, conducted preliminary research under contract. Jet Lowe, HAER photographer, and

Joseph E. B. Elliott, contract photographer, Sellersville,
Pennsylvania, produced large-format photographs.

Description and History

The Pennsylvania Railroad (PRR) began constructing the Trenton Cut-Off in 1889 to provide a freight route between New York and points west that avoided the crowded Philadelphia terminal district. In June 1891, the first section opened, diverging from the main line at Morrisville, New Jersey, and terminating at Earnest, Pennsylvania, across the Schuylkill River from Swedesburg. Pencoyd Bridge Co. of Philadelphia completed seven double-track Pratt deck truss spans across the river later that year. The remainder of the route, crossing the Schuylkill and returning to the main line in Chester County, opened to traffic in January 1892.¹

PRR made a number of improvements to freight operations in eastern Pennsylvania during the administration of President Alexander J. Cassatt (1899-1906). Cassatt's ambitious construction plan of 1902 included two sections of low-grade freight tracks, the Philadelphia & Thorndale Branch parallel to its main line in Chester County, and the Atglen & Susquehanna Branch along a separate alignment in Lancaster County.² Historian David W. Messer reports that PRR also reduced grades on the Trenton Cut-Off to make it "compatible" with the new low-grade routes. This involved raising the Schuylkill River bridge in 1904.³ The change is still evident in thicker courses of stone at the top of each pier.

In 1913, PRR began considering a sturdier replacement for the Schuylkill River crossing. The railroad's bridge engineers weighed an entirely new reinforced concrete arch structure (estimated to cost \$453,904) versus new steel trusses on the existing piers (\$212,870).⁴ Choosing the less expensive alternative, PRR contracted with Phoenix Bridge Co. to provide seven riveted Warren deck truss spans, each measuring 120'-10" long between centers of end bearings and 15'-6" deep. The bearings sit 3'-2" apart on the piers and 1'-7" away from the abutment back walls, for a total structure length of 868'-0". Seven lines of stringers, more or less evenly spaced between the upper chords, support a 26'-0"-wide concrete slab deck carrying two tracks.⁵ Phoenix delivered materials to the site in September 1914 and erected the structure over the following months.⁶ The bridge received catenary towers during electrification of PRR's Philadelphia-Harrisburg routes in 1938.⁷

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Notes

1. Howard W. Schotter, *The Growth and Development of the Pennsylvania Railroad Company: A Review of the Charter and Annual Reports of the Pennsylvania Railroad Company 1846 to 1926* (Philadelphia: Press of Allen, Lane, and Scott, 1927), 226; cf. Agreement No. 1498, "A. & P. Roberts & Co. with the Pennsylvania R. R. Co. for Furnishing at Bridge Site and Erecting in place Schuylkill River, Plymouth Pike and Flourtown Rd. Bges. Trenton Cut Off, Dated July 30, 1890," in folder "Trenton Cut-off 1889-1891," Box 756, Construction Contracts, Engineering Department, Pennsylvania Railroad Company records, Acc. 1807, Hagley Museum and Library, Greenville, Del.
2. Schotter, *Growth and Development*, 281-82.
3. David W. Messer, *Triumph II: Philadelphia to Harrisburg, 1828-1998* (Baltimore: Barnard, Roberts & Co., 1998), 268.
4. Milepost 14.87, region/division/branch 111121, correspondence files, Consolidated Rail Corp., Philadelphia, Pa. [transferred to Norfolk Southern Railway Co., Atlanta, Ga.].
5. Pennsylvania Railroad, "General Details of Bridge No. 25 at Earnest, E. Pa. Div. — Trenton Branch — Phila. Div." (May 1914), milepost 14.87, region/division/branch 111121, aperture card files, Consolidated Rail Corp., Philadelphia, Pa. [transferred to Norfolk Southern Railway Co., Atlanta, Ga.].
6. Interstate Commerce Commission, Bureau of Valuation, Engineering Field Notes, Pennsylvania Railroad Eastern Division, Notebook No. 40, p. 20 (19 May 1917), in Box 6002, Record Group 134, National Archives, College Park, Md.
7. Larry DeYoung, interview by Preston M. Thayer, July 1999.

Acknowledgment

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